

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 06-263627

(43)Date of publication of application : 20.09.1994

(51)Int.Cl.

A61K 7/48

A61K 7/00

A61K 35/78

(21)Application number : 05-078870

(71)Applicant : SUNSTAR INC

(22)Date of filing : 12.03.1993

(72)Inventor : TAKAHASHI AYUMI

MATSUMOTO KUMIKO

NAESHIRO HIDEKAZU

(54) COSMETIC COMPOSITION FOR PREVENTING AGING OF SKIN

(57)Abstract:

PURPOSE: To obtain a cosmetic for preventing aging of skin, excellent in effects for preventing aging of skin (proliferation of epiderm, promotion of differentiation, turn over promotion of corneal layer, improvement of corneum, skin- beautifying effect, etc.).

CONSTITUTION: A cosmetic composition for preventing aging of skin is obtained by blending extracts of a plant belonging to the genus *Betula* or *Alnus* of *Betulaceae* (e.g. *Betula platyphylla* or *Alnus japonica*). As the extracting solvents for plant extracts, benzene, ethyl ether, chloroform, methylene chloride, ethyl acetate, butyl acetate, acetone, methanol, ethanol or 1,3-butylene glycol and water, etc., are preferably used, though these solvents are not especially limited. These extracts are blended in amounts of 0.001-2wt.% based on cosmetic composition.

LEGAL STATUS

[Date of request for examination]

27.05.1997

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]	2988803
[Date of registration]	08.10.1999
[Number of appeal against examiner's decision of rejection]	
[Date of requesting appeal against examiner's decision of rejection]	
[Date of extinction of right]	

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to skin aging prevention cosmetics excellent in the skin aging prevention effectiveness (growth of an epidermal cell, promotion of differentiation, turnover promotion of a horny layer, a keratin improvement, beautiful skin effect, etc.) which contains the extract extractives of the vegetation belonging to Betula of Betulaceae, and an alder group as an active principle.

[0002]

[Description of the Prior Art] On the aging skin, it becomes the desiccation skin which the fall of the cell activity of epidermis and dermis is looked at, therefore the depression of a horny layer depends, and the skin without the resiliency by the depression of dermis fibrocyte. In order to recover the activity of such the aging skin, retrieval of a cell activator is performed and the matter with the growth promotion operation over dermis fibrocyte is proposed (placental extract, whey extract, etc.). However, the constituent which blended these also came out of the effectiveness as skin aging prevention cosmetics enough, there was nothing and retrieval of a more effective component was a technical problem.

[0003]

[Means for Solving the Problem] this invention persons continue retrieval about the activator of an epidermal cell. Also unexpectedly, Betula of Betulaceae, It discovers that the extract extractives of the vegetation belonging to an alder group have the operation which promotes growth of an epidermal cell notably. As a result of repeating examination wholeheartedly, these extractives improve the function of a horny layer. Further The skin cosmetics which come to blend the extract extractives of the vegetation belonging to Betula of Betulaceae and an alder group promote the turnover of the aging skin. It checks also discovering Mr. ** and a beautiful skin effect (admiration, a smooth feeling, a flare, and gloss being gently given to the skin) for a remarkable operation to a dry-rough-skin improvement effect and a keratin improvement effect, and came to complete this invention. That is, this invention is skin aging prevention cosmetics which come to blend the extract extractives of the vegetation belonging to Betula of Betulaceae, and an alder group.

[0004] The Betula alba of Betula of Betulaceae used for this invention is well-known vegetation which exists in **** of Takayama of CHUBU ENGINEERING CORPORATION or a northern part in Japan. Moreover, it is the well-known vegetation to which the alder of the vegetation belonging to the alder group of the same family also exists in Japan. Although the vegetable extract extractives blended into the skin cosmetics of this invention are the extract extractives of the vegetation belonging to Betula of above-mentioned Betulaceae, and an alder group and especially an extracting solvent is not limited, benzene, ethyl ether, chloroform, a methylene chloride, ethyl acetate, butyl acetate, an acetone, a methanol, ethanol or 1, 3-butylene glycol, water, etc. are desirable, and chloroform, ethanol, and especially water are still more desirable. These extracting solvents can also mix and use two or more sorts. Extract operation is performed by the conventional method. That is, the xylem of these vegetation, a bark, a root, a leaf, etc. are dried, or it breaks finely as it is, and is immersed in a desired extracting

solvent. Especially the immersed temperature is not limited. A solvent can be filtered out after immersion, it can condense by approaches, such as vacuum concentration, and extractives can be obtained. As for the loadings to the cosmetics of the extract extractives of the vegetation belonging to Betulaceae Betula and an alder group, it is desirable that it is 0.001 - 2.0 % of the weight. The skin aging prevention effectiveness made into the purpose for these loadings to be less than 0.001 % of the weight cannot demonstrate enough. On the other hand, even if it exceeds 2.0 % of the weight, the improvement in effectiveness corresponding to the increment is not obtained. Remarkable effectiveness is accepted, when the extract extractives of the vegetation belonging to these Betulaceae Betula and an alder group improve a skin function, restore or improve the function with which the skin is originally equipped, and maintain the skin at a healthy condition and it applies to especially the aging skin. According to the class, well-known components (a basis, coloring matter, perfume, antiseptics, a surfactant, a pigment, anti-oxidant, etc.) can be suitably blended with the skin cosmetics of this invention in the range which does not spoil the engine performance.

[0005]

[Example] Hereafter, this invention is explained to a detail based on the example of reference, and an example.

[Production of extract extractives]

Example 1 of reference: 1l. water extracted 100g of bark of the Betula alba twice. Subsequently, it hardened by drying, after carrying out vacuum concentration of 2 times of the extracts, and extract extractives 1.4g was obtained. (1.4% of yield)

Example 2 of reference: 100g of bark of the Betula alba was extracted twice by 1l. ethanol. Subsequently, it hardened by drying, after carrying out vacuum concentration of 2 times of the extracts, and extract extractives 22g was obtained. (22% of yield)

Example 3 of reference: 1l. chloroform extracted 100g of bark of the Betula alba twice. Subsequently, it hardened by drying, after carrying out vacuum concentration of 2 times of the extracts, and extract extractives 23g was obtained. (23% of yield)

[0006] Example 4 of reference: 1l. water extracted 100g of bark of an alder twice. Subsequently, it hardened by drying, after carrying out vacuum concentration of 2 times of the extracts, and extract extractives 1.0g was obtained. (1.0% of yield)

Example 5 of reference: 100g of bark of an alder was extracted twice by 1l. ethanol. Subsequently, it hardened by drying, after carrying out vacuum concentration of 2 times of the extracts, and extract extractives 18g was obtained. (18% of yield)

Example 6 of reference: 1l. chloroform extracted 100g of bark of an alder twice. Subsequently, it hardened by drying, after carrying out vacuum concentration of 2 times of the extracts, and extract extractives 23g was obtained. (23% of yield)

[0007] [Cornification cell proliferation accelerated test]

Cultured cell: The cornification cell used the SV40 transformation Homo sapiens keratinocyte established as a cultured cell.

Test method: 2.5ml of fetal calf serum which sterilized in the clean bench, 75ml of keratinocyte basal media, and 0.8ml of antibiotics were put in, 1.6×10^6 cornification cells were scattered there, 3ml was poured distributively on each 6 hole plate, and it cultivated at 37 degrees C under the ambient atmosphere which contains 5% of carbon dioxide gas among a carbon-dioxide-gas incubator. Culture medium was removed 24 hours after, 1.5ml of keratinocyte basal media, the 1.5ml of the Dulbecco strange method eagle minimum nutrition culture media, 3micro g potassium chloride 3micro [of linolic acid] g, antibiotic 30microg, and 30microg [/ml] fatty-acid free cow serum albumin were put in, and it added so that the last concentration might become [ml] in 0.1microg /, and the trial matter was cultivated for one week. Culture medium was removed after culture, and EDTA and phosphoric-acid ***** of Dulbecco who subsequently contains a trypsin 0.25% were added 0.02%, and it exfoliated. Subsequently, these were removed, in each hole, 1ml was put in, Dulbecco's phosphoric-acid ***** was suspended, and the number of cells was measured by the erythrocytometer. It carried out based on the number of cells of the blank trial which used distilled water instead of vegetable extractives, the rate

of a breeding ratio was calculated by the following formulas, and it was shown in the 1st table.

[0008]

[Equation 1]

$$\text{増殖比率} = \frac{\text{薬物処理群細胞数}}{\text{薬物無処理群細胞数}}$$

[0009]

[Table 1]

第1表：角化細胞増殖促進試験

植物名	抽出溶媒	増殖比率
シラカバ	水	1.48
	エタノール	1.21
	クロロホルム	0.78
ハンノキ	水	1.35
	エタノール	1.19
	クロロホルム	0.69

[0010] [Organoleptics (beautiful skin effect trial)]

Test method: The effectiveness three months after applying the cream which blended the Betula-alba extract extractives of an example 2 with 20 woman test subjects (his 30-40's) who appeal against the rough skin, *****, the desiccation skin, etc. 2.0%, and Betula-alba extract extractives a non-blended cream (cream B) for three months in succession [bis die (morning, evening)] was evaluated. The wettability of the skin, flexibility, resiliency, and the number to which it replied to each item of gloss in five steps showed the test result.

[0011]

[Table 2]

第2表：官能試験（美肌効果試験）

項目	評価	クリームA	クリームB
湿潤性	非常に良い	9(人)	0(人)
	良い	7	1
	やや良い	3	4
	変化なし	1	14
	やや悪い	0	1
柔軟性	非常に良い	10	0
	良い	5	2
	やや良い	4	6
	変化なし	1	12
	やや悪い	0	0
弾力性	非常に良い	7	0
	良い	7	1
	やや良い	6	3
	変化なし	0	16
	やや悪い	0	0
艶	非常に良い	9	0
	良い	5	2
	やや良い	5	3
	変化なし	1	14
	やや悪い	0	1

[0012] Test result: It was admitted that the Betula-alba extract extractives of this invention discovered a

beautiful skin effect (admiration, a smooth feeling, a flare, and gloss are gently given to the skin) so that clearly from the result of the 2nd table.

[0013]

Example 1. face toilet Component Loadings (% of the weight)

Betula-alba extract extractives (example 2 of reference) 0.05 A glycerol 6.0 Ethanol 8.0

Polyoxyethylene hydrogenated castor oil 0.8 Methyl parahydroxybenzoate 0.05 A citric acid 0.05

sodium citrate 0.07 Perfume 0.1 Purified water Remainder Sum total A glycerol, a citric acid, and a

sodium citrate are dissolved in 100 purified water. Betula-alba extract extractives, polyoxyethylene

hydrogenated castor oil (60E.O), the methylparaben, and perfume were separately dissolved in ethanol,

in addition to the aforementioned purified water solution, it solubilized and filtered, and face toilet was

obtained.

[0014]

Example 2. cream Component Loadings (% of the weight)

Component (A)

Betula-alba extract extractives (example 1 of reference) 2.0 Ascorbyl stearate 1.0 White beeswax 4.0

Cetanol 2.0 Stearin acid 1.0 Myristic-acid isopropyl 5.0 Lanolin 2.0 liquid paraffin 9.0 self-

emulsification mold monostearin acid glyceryl 3.0 Monostearin acid Polyoxyethylene sorbitan (20E.O)

1.5 Propyl parahydroxybenzoate 0.1 Component (B)

Methyl parahydroxybenzoate 0.2 Propylene glycol 5.0 Perfume 0.2 Purified water Remainder Sum total

The heating dissolution of the 100 components (A) is carried out, and it holds at 80 degrees C. Having

carried out the heating dissolution of the component (B) except perfume independently, having kept at

80 degrees C, and stirring said component (A) to this, in addition, it cooled, perfume was added, it

cooled further, and the cream was obtained.

[0015]

Oil for example 3. makeup Component Loadings (% of the weight)

Betula-alba extract extractives (example 3 of reference) 1.0 Stearin acid cholesteryl 1.0 Olive oil 2.0

Squalene Remainder Sum total Other components were dissolved in 100 squalane at homogeneity, and

the oil for makeup was obtained.

[0016] It changes into the Betula-alba extract extractives of examples 1-3, and the cosmetics which blended the extract extractives of the alder shown in the examples 4-6 of reference can be prescribed similarly. These cosmetics were used for the woman test subject who appeals against the rough skin, *****, the desiccation skin, etc., and all obtained good evaluation to each item of the wettability of the skin, flexibility, resiliency, and gloss.

[0017]

[Effect of the Invention] The skin cosmetics of this invention have effectiveness, such as growth of an epidermal cell, promotion of differentiation, turnover promotion of a horny layer, a keratin improvement, and a beautiful skin effect, improve a skin function, and demonstrate the effectiveness excellent in aging prevention of the skin.

[Translation done.]